



 H868
Operating Manual

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1 About this manual

This operating manual for the special sewing machine H868 was compiled with the utmost care. It contains information and notes in order to make long-term and reliable operation possible.

Should you notice any discrepancies or if you have improvement requests, then we would be glad to receive your feedback,

 *Section 5.16 Customer service.*

Please regard the operating manual as part of the product and keep it in a safe place where it can be easily accessed. Read the operating manual completely prior to using the unit for the first time. Only pass the product on to third parties together with the operating manual.

1.1 Area of applicability

This manual describes the intended use and the set-up of the special sewing machine H868.

1.2 Target group

The operating manual is intended for:

- Operating personnel:
This group of employees has been trained in operating the machine and can access the operating manual. Specifically  *Section 5 Operation* is important for this group of employees.
- Specialized staff:
This group of employees has the appropriate technical training allowing them to perform maintenance on the sewing unit or to repair faults. Specifically  *Section 6 Set-up* is important for this specialized staff. Service instructions are supplied separately.

With regard to minimum qualification and other requirements to be met by the personnel, please also observe  *Section 3 Safety instructions.*

1.3 Symbols and characters used

Different information is depicted or highlighted in this operating manual by the following characters for easier and quicker understanding:

Symbol/character	Meaning
•	Lists are identified by bullet points.
1. 2.	Instructions are numbered and have to be performed in the specified order.
	References to further information in this operating manual or other documents are identified by this symbol.

Safety

Important warnings for the user of the sewing machine are specifically marked. Because safety constitutes an area of major importance, hazard symbols, levels of risk, and their signal words are described separately in  *Section 3 Safety instructions*.

Location information

Information on where something is positioned using the terms "right" or "left" must always be regarded from the operator's point of view if the figure gives no other obvious indication for determining the location.

1.4 Other documents

The device contains built-in components from other manufacturers. The respective manufacturers have carried out hazard assessments for these purchased parts and confirmed compliance of the design with the applicable European and national regulations. The intended use of the built-in components is described in the corresponding manuals of the manufacturers.

1.5 Liability

All information and notes in this operating manual have been compiled in accordance with the latest technology and the applicable standards and regulations.

The manufacturer accepts no liability for any damage due to:

- Breakage and transport
- Failure to observe the operating manual
- Improper use
- Unauthorized modifications to the machine
- The deployment of untrained personnel
- Using spare parts not approved

1.6 Transportation

Dürkopp Adler cannot be held liable for any damage during transport. Check the delivered product immediately after receiving it. Report any damage to the last transport manager. This also applies if the packaging is not damaged.

Keep the machines, devices, and packaging material in the condition they were at the time the damage was identified. That secures any claims towards the transport company.

Report all other complaints to Dürkopp Adler immediately after receiving the product.

1.7 Intended use

The Dürkopp Adler H868 is for intended for sewing moderately heavy to heavy material. Moderately heavy material requires needles strengths of 140 – 180 Nm, heavy material requires needles strengths of 180 - 250 Nm.

The machine is only intended for processing dry material.

The material must contain no hard objects.

The sewing machine is intended for industrial use.

The machine may only be set up and operated in dry conditions on well-maintained premises. If the machine is operated on premises that are not dry and well-maintained, then further measures may be required which must be compatible with EN 60204-31:1999.

Only authorized/trained persons may work on the machine.

The manufacturer will not be held liable for damage resulting from improper use.

WARNING

Danger due to high voltage, crushing and sharp objects.

Improper use can result in injuries.

Please follow all instructions in the manual.

ATTENTION

Improper use could result in material damage.

Please follow all instructions in the manual.

2 Performance description

The Dürkopp Adler special sewing machine H868 is equipped with an extra-large 3XL hook with a 40 mm bobbin diameter.

The clearance under the sewing feet when lifted is max. 25 mm.

The subclasses have a DC drive with a reversing mechanism, required in order to position the needle above the feet.

The special sewing machine positions the needle at the end of the seam and has an electropneumatic foot lifter above the sewing pedal.

A safety snap-on coupling prevents any misadjustment or damage to the hook in the event of a thread jamming.

Automatic wick lubrication with an oil level indicator at the column eases lubrication of the machine and hook.

The special sewing machine is equipped with a 6-key keypad. An additional switch is located in easy reach of the sewer and can be assigned 6 functions.

Possible operating functions:

- Manual sewing in reverse
- Needle up / down
- Call up the start or end strip or bartack suppression
- Second stitch length
- Switchable thread tension
- Lower the middle stop

2.1 Features

Upper part of the machine

- Single-needle column double lockstitch version
- Double-needle column double lockstitch version

2.2 Declaration of conformity (CE)

The machine complies with the European regulations specified in the declaration of conformity or in the installation declaration.



2.3 Additional equipment

A flexible system of additional equipment allows optimal, low-cost equipping of the special sewing machine to suit the respective application.

- = Standard equipment
- = Optional expansion

Order number	Additional equipment	H868-190361	H868-290361
0868 590014	Residual-thread monitor for the hook thread, 3XL hook, 1-needle machines	○	
0868 590024	Residual-thread monitor for the hook thread, 3XL hook, 2-needle machines		○
0867 490010	Operating panel bracket	●	●
9822 510003	Halogen sewing lamp for upper sewing machine section	○	○
9880 867100	Sewing lamp attachment set	○	○
0798 500088	Sewing lamp transformer for halogen sewing lamp	○	○
9880 867103	1-diode sewing lamp with attachments	○	○
9880 867118	Integrated diode sewing lamp	●	●
9850 001089	Power supply unit for integrated sewing lamp and 1-diode sewing lamp	●	●
0797 003031	Pneumatic connection package for connecting frames with maintenance unit	○	○
N800 080007	Rollers and straight stop	○	○

Order number	Additional equipment	H868-190361	H868-290361
N800 080033	Swiveling end stop, with stop, roller and seam middle guide	○	○
N800 005650	Seam center guide from front, pneumatically switched		○
9835 901005	Memo dongle, external memory, for data transmission with DA Classic control	○	○
0867 590984	Thread clamp with thread wiper function (FK kit)	○	○
9081 300001	Tool set for M-type	○	○
0867 590684	Electronic handwheel	●	●
MG55 400364	Frame set for motor, attached to the upper section, table plate 1060 x 600 mm with pedal (MG 55-3)	○	○

2.4 Technical data

Technical data	H868-190361	H868-290361
Length/width/height [mm]	650/280/690	
Weight without/with direct drive [kg]	72	74
stitch type	Lockstitch 301	
Hook type	Vertical, oversize (3XL)	
Number of needles	1	2
Needle system	328 (794 and 7x23 are possible after conversion)	
Maximum needle strength [Nm]	250	
Sewing thread thickness	8/3, braided thread 1.2 mm	
Stitch length, forwards / backwards [mm]	12 / 12	
Number of adjustable stitch lengths	2	
Maximum number of stitches	1800	

Technical data	H868- 190361	H868- 290361
Number of stitches on delivery	1600	
Stitch quantity reduction for stitch lengths of 6 – 12 mm	1200	
Stitch quantity reduction for strokes of 1 – 3 mm	1800	
Reduction of the number of stitches with stroke exceeding 4 mm	1500	
Reduction of the number of stitches with stroke exceeding 6 mm	1200	
Reduction of the number of stitches with stroke exceeding 9 mm	1000	
Maximum stroke height (only with reversing mechanism)	25	
Maximum sewing foot stroke	9	
Positive operating pressure [bar]	6	
Air consumption [NL]	0.7	
Rated voltage [V/Hz]	1x230 V - 50/60 Hz	
Rated power [kVA]	375 W	

3 Safety instructions

This section contains basic instructions for your safety. Read the instructions carefully before setting up, programming, maintaining, or operating the machine. Make sure to follow the information included in the safety instructions. Failure to do this can result in serious injury and damage to the machine.



3.1 Basic safety instructions

The machine may only be used as described in this manual.

The operating manual must be available at the machine's location at all times.

Work on live components and equipment is prohibited. Exceptions are defined in the specifications in DIN VDE 0105.

For the following work, the machine must be disconnected from the power supply using the main switch or by disconnecting the power plug:

Replacing the needle or other sewing tools

Leaving the workplace

Performing maintenance work and repairs

Incorrect or faulty spare parts can impair safety

and damage the machine. Therefore only use original spare parts from the manufacturer.

Feed

Use a sturdy lifting carriage or forklift for transporting the machine.

Raise the machine max. 20 mm and secure it against slipping off.

Set-up

The connecting cable must have a power plug approved in the specific country. The power plug may only be connected to the power cable by a qualified specialist.

Operator's obligations

Observe the country specific safety and accident prevention regulations and the legal regulations concerning industrial safety and the protection of the environment.

All warnings and safety signs on the machine must always be in legible condition and may not be removed. Missing or damaged labels must be replaced immediately.

**Requirements to
be met by the
personnel**

The machine may only be set up by qualified specialists.

Maintenance work and repairs may only be carried out by qualified specialists.

Work on electrical equipment may only be carried out by qualified specialists.

Only authorized persons may work on the machine. Every person who works on the machine must have read the operating manual first.

Operation

Inspect the machine while in use for any externally visible damage. Interrupt your work if you notice any changes to the machine. Report any changes to your supervisor. A damaged machine may not be used any more.

**Safety
equipment**

Safety equipment may not be removed or put out of service. If this cannot be avoided for a repair operation, the safety equipment must be refitted and put back into service immediately afterwards.

3.2 Signal words and symbols used in warnings

Warnings in the text are distinguished by color bars. The color scheme is oriented towards the severity of the danger. Signal words specify the severity of a danger:

Signal words

Signal words and the endangerment that they describe:

Signal word	Endangerment
DANGER	Resulting in death or serious injury.
WARNING	Death or serious injury possible.
CAUTION	Moderate to minor injuries possible.
ATTENTION	Damage possible.

Symbols

In the case of dangers to personnel, the following symbols indicate the type of hazard:

Symbol	Type of danger
	General danger

Symbol	Type of danger
	Danger due to electric shock
	Danger due to sharp objects
	Danger due to crushing

Examples

Examples of the layout of the safety instructions in the text:

DANGER



Type and source of the danger

Consequences in the event of noncompliance

Measures for avoiding the danger

This is what a hazard note looks like for a hazard that will result in serious injury or even death if not complied with.

WARNING



Type and source of the danger

Consequences in the event of noncompliance

Measures for avoiding the danger

This is what a hazard note looks like for a hazard that could result in serious injury or even death if not complied with.

CAUTION



Type and source of the danger

Consequences in the event of noncompliance

Measures for avoiding the danger

This is what a hazard note looks like for a hazard that could result in moderate or minor injury if not complied with.

ATTENTION

Type and source of the danger

Consequences in the event of noncompliance

Measures for avoiding the danger

This is what a hazard note looks like for a hazard that could result in material damage if not complied with.

ATTENTION



Type and source of the danger

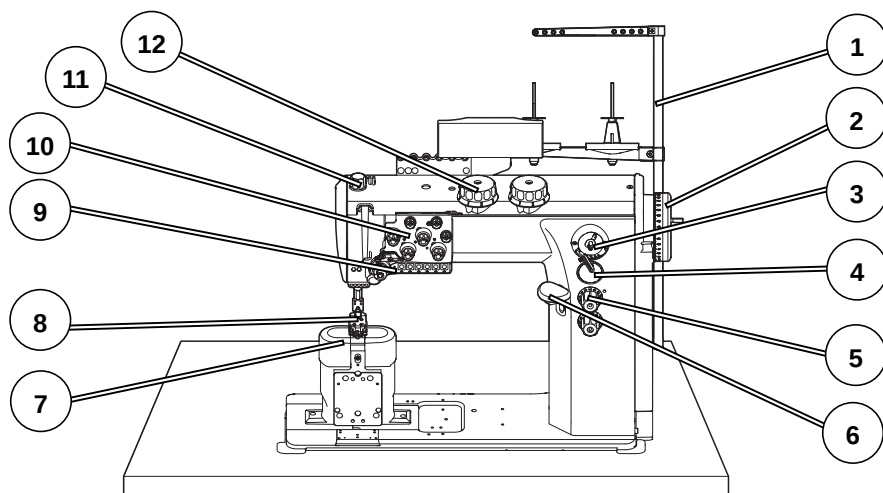
Consequences in the event of noncompliance

Measures for avoiding the danger

This is what an hazard note looks like for a hazard that could result in environmental damage if not complied with.

4 Device description

Figure 1: Product overview



(1) - Unwinding bracket with thread
reel holder

(2) - Handwheel

(3) - Bobbin winder for the hook
thread

(4) - Oil level indicator

(5) - Adjusting wheels for the stitch
length

(6) - Stitch adjustment lever

(7) - Hook

(8) - Sewing foot with needle

(9) - Keypad on the machine arm

(10) - Thread tensions

(11) - Adjusting wheel for the sewing
foot pressure

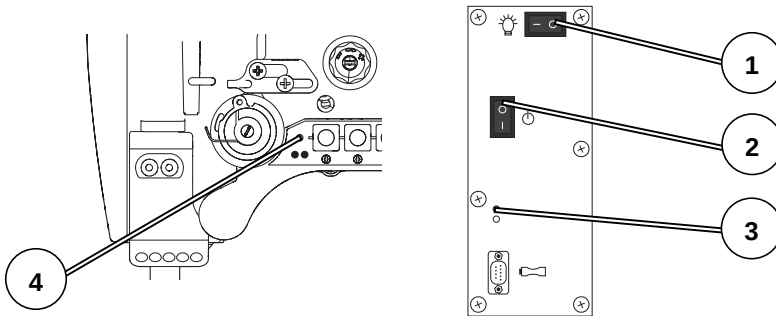
(12) - Adjusting wheels for the
sewing foot stroke

5 Operation

5.1 Switching the power supply on and off

The lower main switch (2) on the control regulates the power supply.

Figure 2: Switching the power supply on and off



- (1) - Switch for the sewing lamp
- (2) - Main power supply switch
- (3) - Indicator lamp on the controller
- (4) - Indicator lamp on the keypad for quick functions

To switch on the power:

- Press the main switch (2) down to position I.
The indicator lamps (3) and (4) light up.

To switch off the power:

- Press the main switch (2) up to position 0.
The indicator lamps (3) and (4) go out.

5.2 Inserting and replacing the needle

WARNING

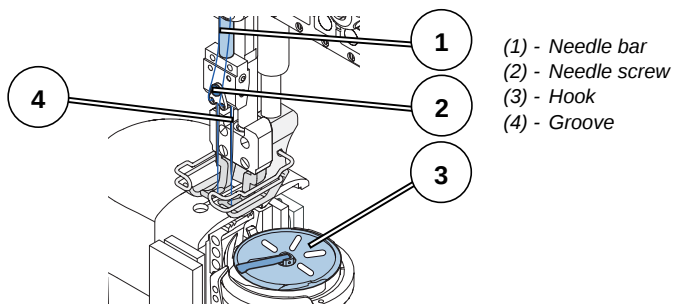


Risk of injury by the needle point and moving parts

Switch off the sewing machine before replacing the needle.

Do not touch the needle point.

Figure 3: Inserting and replacing the needle



1. Turn the handwheel back until the needle bar (1) reaches the upper end position.
2. Loosen the needle screw (2).
3. Pull the needle out towards the bottom.
4. Insert the new needle.
5. Align the needle in such a way that the groove (4) faces the hook (3).
6. Tighten the needle screw (2).

2-needle machines

Note on 2-needle machines:

The procedure for the second needle of 2-needle machines is identical.

- Align the needles in such a way that the grooves face away from each other. Each groove then faces the hook that belongs to this needle.

WARNING

Damage to the hook point or needle possible due to incorrect distance from the hook.

The distance between the hook and the needle only needs to be adjusted if the new needle has a different size.

After changing the needle size, adjust the hook distance.

For more information see  *Service manual*.

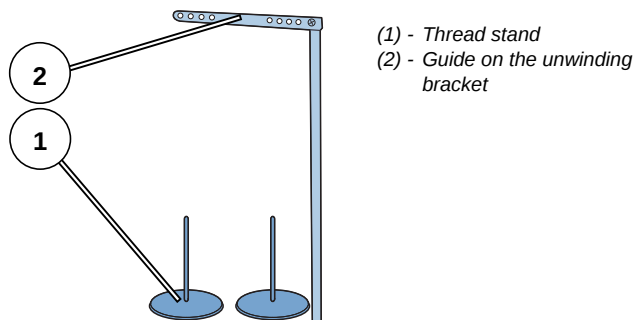
5.3 Threading in the needle thread

WARNING

Risk of injury by the needle point and moving parts

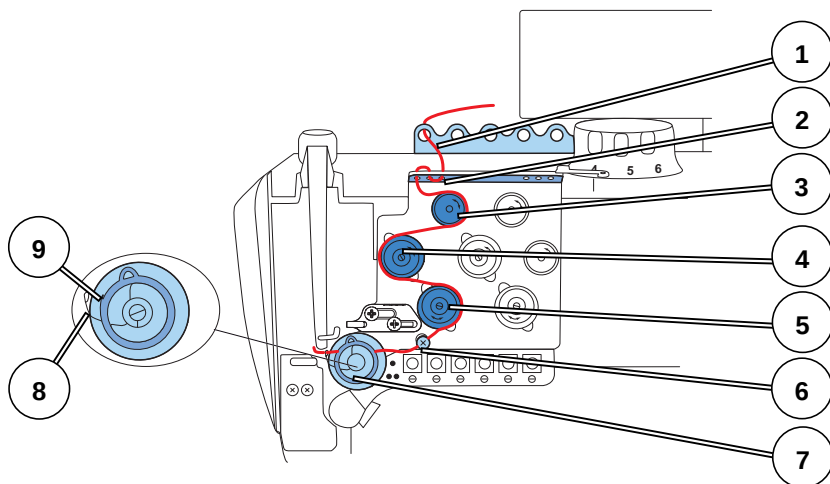
Switch off the sewing machine before inserting the thread.

Figure 4: Thread guide on the unwinding bracket and machine arm



1. Fit the thread reel on the thread reel holder (1).
2. Insert the thread from the rear to the front through a hole in the guide.
Thread the unwinding bracket (2).

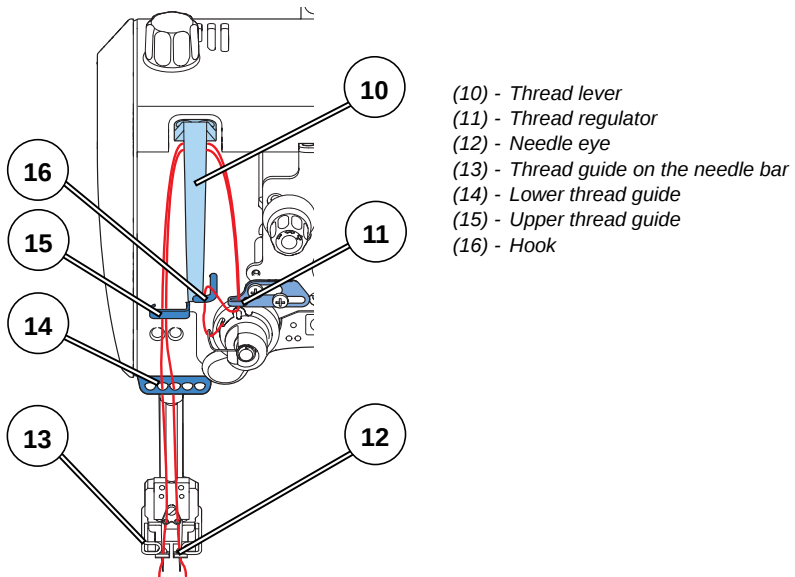
Figure 5: Threading procedure for needle thread – part 1



- | | |
|----------------------------|--------------------------------|
| (1) - First thread guide | (6) - Additional screw |
| (2) - Second thread guide | (7) - Thread tensioning spring |
| (3) - Pre-tensioner | (8) - Spring tip |
| (4) - Additional tensioner | (9) - Tightening lever |
| (5) - Main tensioner | |

1. Insert the thread from the rear to the front through the left hole in the 1st thread guide (1).
2. Insert the thread in a wavelike manner through the 3 holes of the 2nd thread guide (2): From above to below through the right hole, then from below to above through the hole in the middle and finally from below to above through the left hole.
3. Guide the thread clockwise around the pre-tensioner (3).
4. Guide the thread counterclockwise around the additional tensioner (4).
5. Guide the thread clockwise around the main tensioner (5).
6. Guide the thread under the additional screw (6) to the thread tensioning spring.
7. Lift the tightening lever (9) with the thread.
8. Pull the thread under the spring tip (8).

Figure 6: Threading procedure for needle thread – part 2



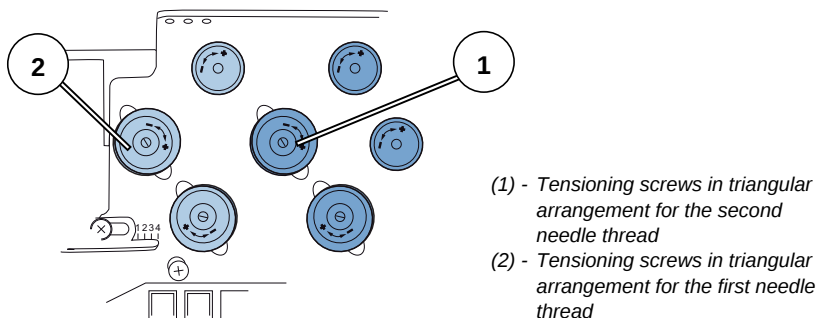
9. Guide the thread under the hook (16).
10. Insert the thread from bottom to top through the hole on the thread regulator (11).
11. Insert the thread from the right to the left through the thread lever (10).
12. Insert the thread through the upper thread guide (15).
13. Insert the thread through a hole in the lower thread guide (14).
14. Insert the thread through the thread guide on the needle bar (13).
15. Insert the thread through the needle eye (12) in such a way that the loose thread end faces the hook.
16. Pull the thread through the needle eye (12) until the loose thread end has a length of 4 cm in the highest position at the thread lever (10).

2-needle machines

Note on 2-needle machines:

2-needle machines are equipped with a second tensioning screw triangle for the 2nd needle thread. The threading-in procedure corresponds to that for the 1st needle thread.

Figure 7: Needle thread threading procedure for 2-needle machines



1. Guide the threads through the guides and around the tensioning screws in such a way that the threads do not intersect.
2. First guide the left-hand needle thread through the left-hand guide holes and around the left-hand tensioning screw triangle.
3. Then guide the right-hand needle thread through the right-hand guide holes and around the right-hand tensioning screw triangle

5.4 Inserting and winding on the hook thread

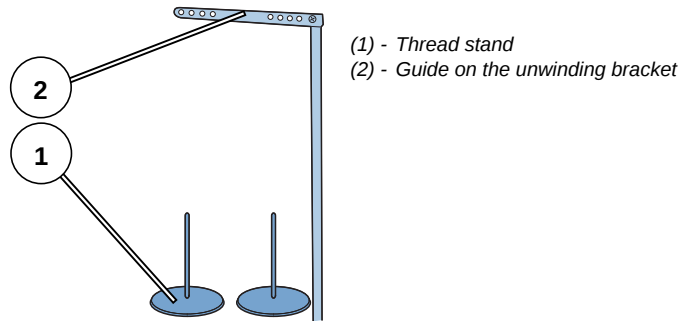
WARNING



Risk of injury by the needle point and moving parts

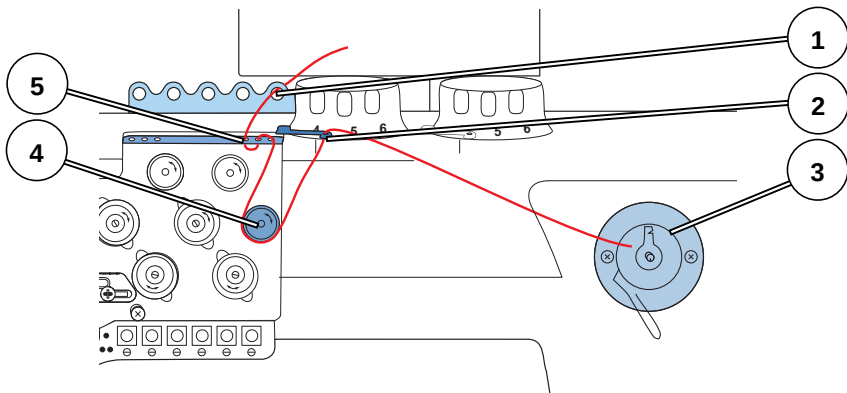
Switch off the sewing machine before inserting the thread.

Figure 8: Thread guide on the unwinding bracket and machine arm



1. Fit the thread reel on the thread reel holder (1).
2. Insert the thread from the rear to the front through a hole in the guide on the unwinding bracket (2).

Figure 9: Winding on the hook thread - part 1

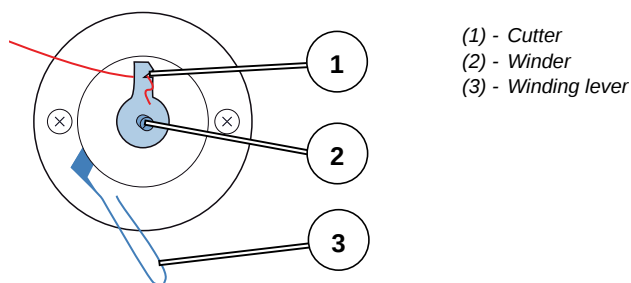


- (1) - 1st thread guide
- (2) - Hook thread guide
- (3) - Winder
- (4) - Hook thread winding tension
- (5) - 2nd thread guide

1. Insert the thread from the rear to the front through the right hole in the 1st thread guide (1).
2. Insert the thread in a wavelike manner through the 3 holes of the 2nd thread guide (5): from top to bottom through the left hole, from bottom to top through the hole in the middle and finally from top to bottom through the right hole.

3. Guide the thread clockwise around the hook thread winding tensioner (4).
4. Insert the thread in a wavelike manner through the 2 holes of the hook thread guide (2): from bottom to top through the left hole and from top to bottom through the right hole.
5. Guide the thread to the winding bobbin (3).

Figure 10: Winding on the hook thread - part 2



1. Clamp the thread behind the cutter (1) and tear off the loose end behind it.
2. Fit the bobbin on the winder (2).
3. Turn the bobbin clockwise until it clicks.
4. Pull the bobbin lever (3) up.

The hook thread is normally wound on when sewing is in progress. However, you can also wind on the hook thread without sewing material, e.g. if you require a full bobbin in order to start sewing.

ATTENTION

Damage to the sewing feet or needle plate possible if the thread is wound on without material.

Lock the sewing feet in place in the highest position and adjust the sewing foot stroke to the smallest value if you wind on hook thread without sewing material.

1. Switch on the sewing machine.
2. Press the foot pedal forwards.
The machine sews and winds the hook thread from the thread

reel onto the bobbin. When the bobbin is full, the machine automatically stops winding. The bobbin lever moves down. The cutter is automatically moved into its basic vertical position.

3. Pull off the full bobbin.
4. Tear off the thread behind the cutter.
5. Insert a full bobbin in the hook (see  Section 5.5 Replacing the hook thread bobbin).
6. Repeat the winding-on procedure with an empty bobbin, as described above.

5.5 Replacing the hook thread bobbin

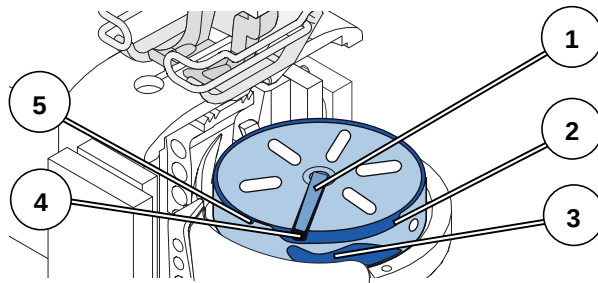
WARNING



Risk of injury by the needle point and moving parts

Switch off the sewing machine before replacing the hook thread bobbin.

Figure 11: Replacing the hook thread bobbin



- (1) - Hook flap
- (2) - 1st hook slot
- (3) - Hook spring

- (4) - Hook flap guide
- (5) - 2nd hook slot

1. Lift the hook flap (1).
2. Remove the empty bobbin.
3. Insert the full bobbin so that it moves in the opposite direction of the hook when the thread is pulled out.

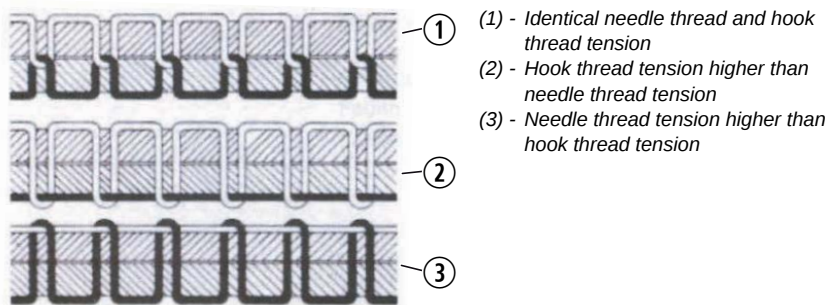
4. Guide the hook thread through the 1st hook slot (2).
5. Pull the hook thread under the hook spring (3).
6. Guide the hook thread through the 2nd hook slot (5).
7. Press the hook flap (1) down.
8. Insert the hook thread through the hook flap guide (4).
9. Turn the handwheel until the hook thread comes up.
10. Pull the hook thread and needle thread back together and hold them tight when sewing starts, to avoid jamming the threads.

5.6 Adjusting the thread tension

The tension of needle thread and hook thread determines the position of the thread interlacing.

If the tension of needle thread and hook thread is identical, the thread interlacing lies in the middle of the material to be sewn.

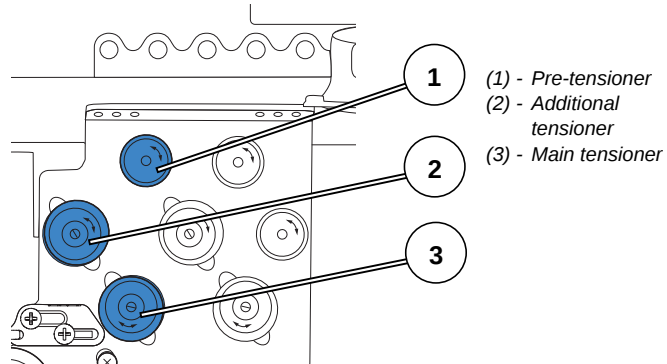
Figure 12: interlacing



5.6.1 Adjusting the needle thread tension

The 3 tension-adjusting wheels on the tensioning screw triangle determine the needle thread tension.

Figure 13: Adjusting the needle thread tension



The main tensioner (3) determines the normal tension during sewing.

The additional tensioner (2) increases the tension during sewing, e.g. for thickened seams. The additional tension (2) is switched on and off using the keypad.

The additional tension (2) must always be selected lower than the main tension (3).

In the basic position, the top of the adjusting wheel is flush with the screw in the center.

To increase the tension:

- Turn the adjusting wheel clockwise.

To reduce the tension:

- Turn the adjusting wheel counterclockwise.

The pre-tensioner (1) holds the thread in position if main tensioner (3) and additional tensioner (2) are open completely.

5.6.2 Adjusting the hook thread tension

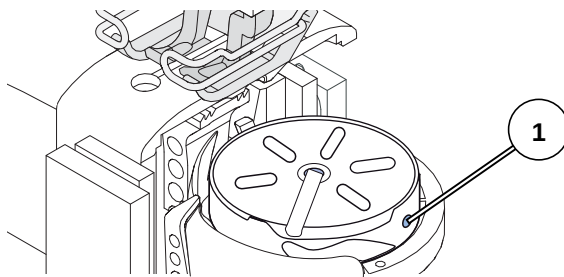
WARNING



Risk of injury by the needle point and moving parts

Switch off the sewing machine before adjusting the hook thread tension.

Figure 14: Adjusting the hook thread tension



(1) - Adjusting screw

The hook thread tension is adjusted using the adjusting screw (1).

To increase the tension:

- Turn the adjusting screw (1) clockwise.

To reduce the tension:

- Turn the adjustment screw (1) counterclockwise.

5.7 Setting the thread regulator

WARNING



Risk of injury by the needle point and moving parts

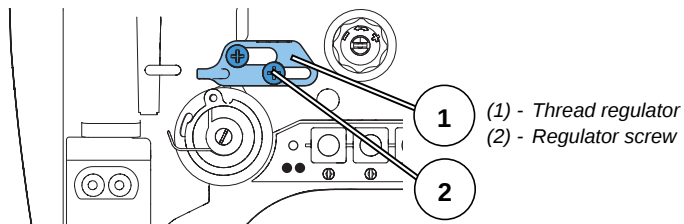
Switch off the sewing machine before setting the thread regulator.

The thread regulator determines the tension applied to guide the needle thread around the hook.

Correct setting:

The loop of the needle thread slides at low tension over the thickest point of the hook.

Figure 15: Setting the thread regulator

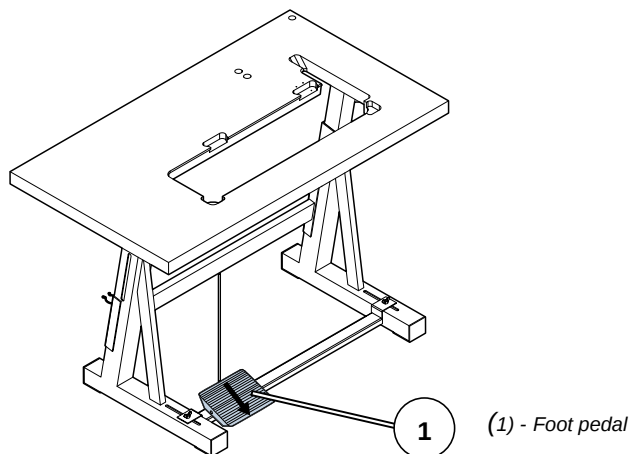


1. Loosen the regulator screw (2).
2. To increase the tension: Slide the thread regulator (1) to the right.
To reduce the tension: Slide the thread regulator (1) to the left.
3. Tighten the regulator screw (2).

5.8 Lifting the sewing feet

You use the foot pedal to raise the sewing feet while sewing, e. g. to move the sewn material.

Figure 16: Foot pedal

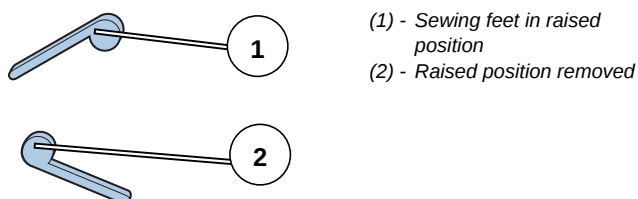


- Press the foot pedal (1) half the way back.
The machine stops and raises the sewing feet. The sewing feet remain up as long as the foot pedal is pressed back half the way.
If the foot pedal is pressed back completely, the machine sews an end strip and stops sewing. Machines with automatic thread cutter cut the thread off.

5.9 Locking the sewing feet in the upper position

There is a lever at the back of the machine for holding the sewing feet in the upper position.

Figure 17: Holding the sewing feet in the upper position with the lever



To hold the sewing feet in the upper position:

- Push the lever down.

To cancel the lock:

- Push the lever up.

You can also use the foot pedal to cancel the upper position:

- Press the foot pedal halfway back as when lifting the sewing feet.

The lever swivels back up and the lock is removed.

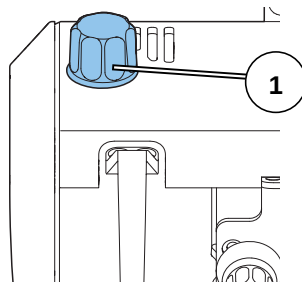
CAUTION**Risk of crushing when lowering the sewing foot.**

Do not hold your hands under the sewing foot when the upper position is released via the pedal or lever.

5.10 Sewing foot pressure

The adjusting wheel at the top left determines the contact pressure of the sewing foot on the material to be sewn. The pressure can be adjusted continuously by turning the wheel.

Figure 18: Adjusting wheel for the sewing foot pressure



(1) - Adjusting wheel for the sewing foot pressure

To increase the sewing foot pressure:

- Turn the adjusting wheel (1) clockwise.

To reduce the sewing foot pressure:

- Turn the adjusting wheel (1) counterclockwise.

ATTENTION

Damage to the material possible if the sewing foot pressure setting is incorrect.

If the sewing foot pressure is too high, the material could tear.

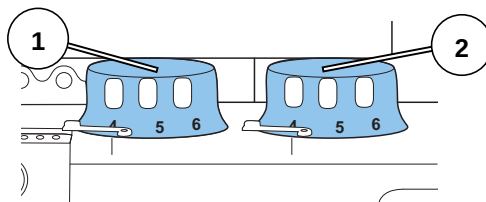
If the sewing foot pressure is too weak, the material could slip.

Adjust the sewing foot pressure in such a way that the material to be sewn slides smoothly over the base without slipping.

5.11 Sewing foot stroke

The two adjusting wheels in the middle of the machine arm determine how high the sewing feet are raised during sewing. The height can be adjusted continuously on a scale from 1 to 9 by turning the wheels. With 1 the sewing foot is raised the least and with 9 it is raised the highest.

Figure 19: Adjusting wheels for the sewing foot stroke



(1) - Adjusting wheel for the normal sewing foot stroke

(2) - Adjusting wheel for the elevated sewing foot stroke

To increase the sewing foot stroke:

- Turn the adjusting wheel clockwise.

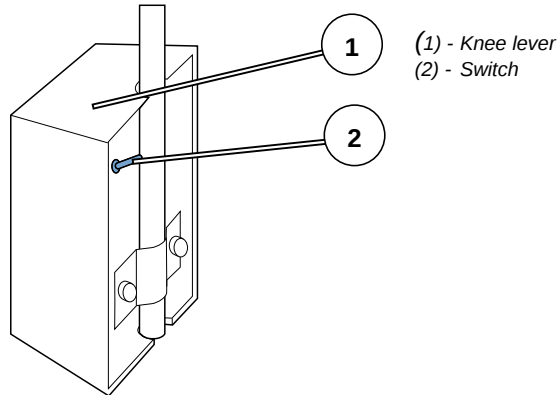
To reduce the sewing foot stroke:

- Turn the adjusting wheel counterclockwise.

The left adjusting wheel (1) determines the normal sewing foot stroke.

The right adjusting wheel (2) determines the elevated sewing foot stroke. It is used for example when sewing thicker parts of the material.

Figure 20: Knee lever



The elevated sewing foot stroke is activated using the knee lever (1). There is a switch (2) at the back of the knee lever (1), which determines whether the sewing foot stroke is applied continuously or only as long as the knee lever is pressed.

For permanent conversion:

1. Turn the switch (2) up.
2. Press the knee lever (1) to the right to switch on the elevated sewing foot stroke.
3. Press the knee lever (1) to the right again to switch off the elevated sewing foot stroke.

For temporary conversion:

1. Turn the switch (2) down.
2. Press the knee lever (1) to the right and hold it in position to switch on the elevated sewing foot stroke.
The elevated sewing foot stroke is retained as long as the knee lever is pushed to the right.
3. Release the knee lever (1) to switch off the elevated sewing foot stroke.

The elevated sewing foot stroke must not be lower than the normal sewing foot stroke. Always set the sewing foot stroke at the right adjusting wheel in such a way that it is at least as high as the sewing foot stroke at the left adjusting wheel.

ATTENTION

Machine damage possible if the adjusting wheels are turned using brute force.

The machine is designed in such a way that the sewing foot stroke at the right adjusting wheel cannot be set lower than at the left adjusting wheel.

Do not attempt to use brute force to set a smaller sewing foot stroke at the right adjusting wheel.

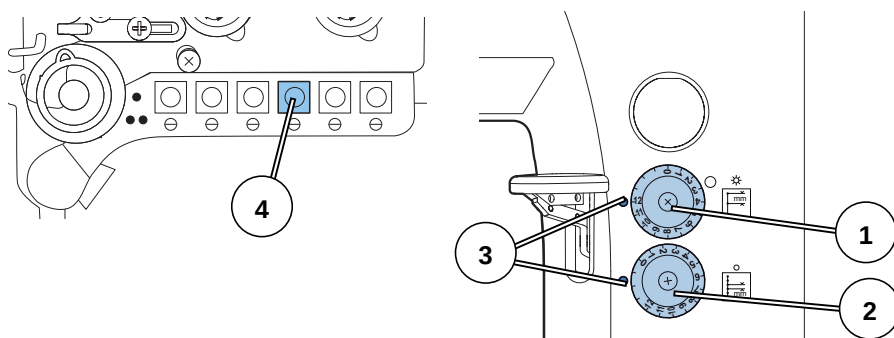
The machine automatically adapts the number of stitches to the sewing foot stroke. If you increase the sewing foot stroke, the number of stitches will be reduced.

5.12 Stitch length

The two adjusting wheels on the machine column determine the stitch length. The stitch length can be adjusted continuously from 0 to 12 mm.

The adjusting mark (3) on the left on the wheel indicates the stitch length selected.

Figure 21: Adjusting wheels for the stitch length



(1) - Upper adjusting wheel for the larger stitch length

(2) - Lower adjusting wheel for the smaller stitch length

(3) - Adjusting marks for indicating the stitch length selected

(4) - Keypad key for the stitch length

To reduce the stitch length:

- Turn the adjusting wheel clockwise.

To increase the stitch length:

- Turn the adjusting wheel counterclockwise.

You can select two different stitch lengths. The upper adjusting wheel (1) is for the larger stitch length and the lower adjusting wheel (2) is for the smaller stitch length.

The larger stitch length is switched on using the stitch length key on the keypad ( Section 5.13 Keypad for quick functions).

When the larger stitch length is active the stitch length button (4) on the keypad on the machine arm lights up.

The larger stitch length must not be shorter than the smaller stitch length. Always select the same or a higher stitch length at the upper adjusting wheel (1) than at the lower adjusting wheel (2).

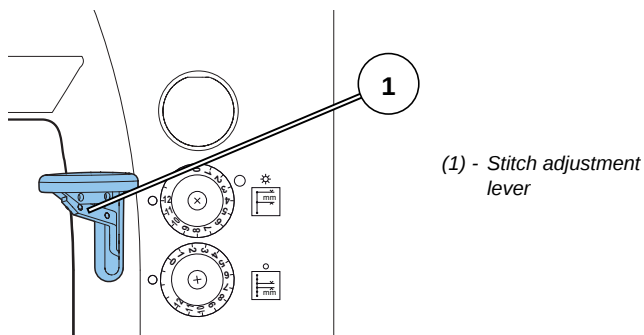
ATTENTION**Machine damage possible if the adjusting wheels are turned using brute force.**

The machine is designed in such a way that a lower stitch length cannot be selected at the upper adjusting wheel than at the lower adjusting wheel.

Do not attempt to use brute force to select a smaller stitch length at the upper adjusting wheel.

The stitch adjustment lever on the machine arm reduces the stitch length down to sewing backwards in the lower end position.

Figure 22: Stitch adjustment lever on the machine arm

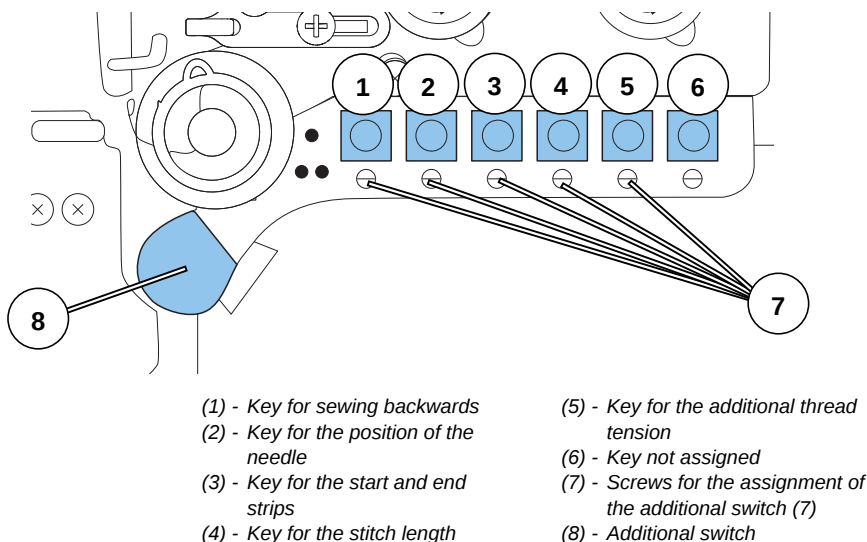


- Slowly push the stitch adjustment lever (1) down.
The stitch length becomes smaller. In the lower end position, the machine sews backwards with the stitch length selected at the adjusting wheels.

5.13 Setting quick functions at the keypad

The keys activate specific functions during sewing.

Figure 23: Keypad for quick functions



Key for sewing backwards (1):

If the key (1) is selected the machine sews backwards.

Key for the position of the needle (2):

If the key (2) is selected the needle moves to a specific position. This position is determined individually via the parameter settings. For more information see  *Service manual*. On delivery, the machine setting is such that the needle is moved up if the key (2) is selected.

Key for the start and end strips (3):

Key (3) cancels the general setting for sewing start and end strips. If strips are switched on, pressing the key (3) disables the next strip. If no strips are switched on, pressing the key (3) sews the next strip.

For the general setting for sewing start and end strips, refer to the manual  *DAC Classic control*.

Key for the stitch length (4):

If the key (4) is selected, the machine sews using the larger stitch length selected at the upper adjusting wheel for the stitch length.

Key for the additional thread tension (5):

If the key (5) is selected the additional thread tension is activated.

Activating a key function:

- Press the key.
The function is activated. The key lights up.

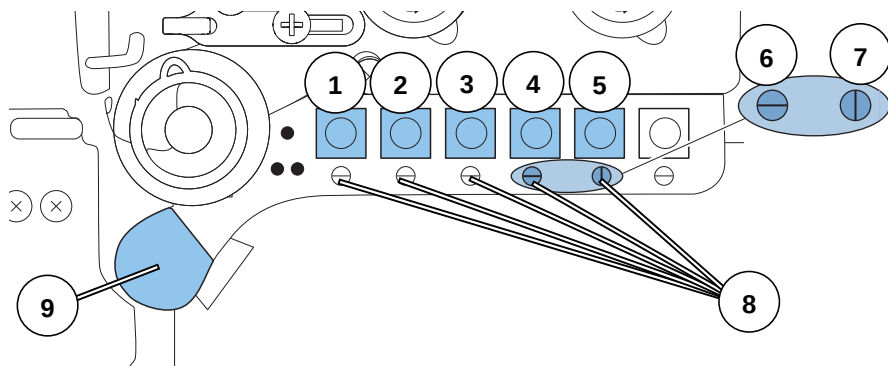
Deactivating a key function:

- Press the key again.
The function is deactivated. The key does not light up any more.

Transferring a key function to the additional switch

You can transfer one of the key functions to the additional switch. Select a function that you require frequently to be able to switch it on faster while sewing.

Figure 24: Transferring a key function to the additional switch



- (1) - Key for sewing backwards
- (2) - Key for the position of the needle
- (3) - Key for the start and end strips
- (4) - Key for the stitch length
- (5) - Key for the additional thread tension
- (6) - Screw in basic position: slot horizontal
- (7) - Screw activates the additional switch (9): slot vertical
- (8) - Screws for the assignment of the additional switch (9)
- (9) - Additional switch

The key function is transferred by turning the screw under the key until it is vertical. Only one function can be transferred to the additional switch (9). Therefore only one of the screws (8) may be in the vertical position.

Before transferring a new function, all screws must be turned back to their horizontal basic position.

To transfer a key function:

1. Turn all screws to their basic position (6) so that the slots are horizontal.
2. Turn the screw under the desired key 90° so that the slot is vertical (7).

5.14 Sewing

The foot pedal starts and controls the sewing process.

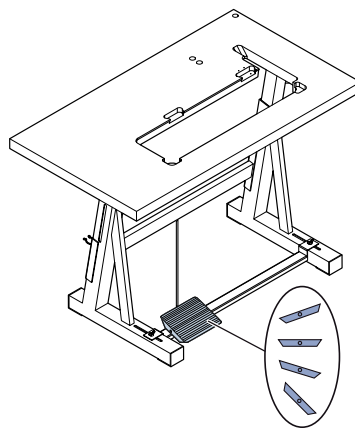
WARNING



Risk of injury from the needle tip when sewing is started unintentionally.

Take care not to accidentally press the foot pedal when your fingers are in the needle tip area.

Figure 25: Sewing with the foot pedal



- (1) - Pedal position +1:
sewing active
- (2) - Pedal position 0:
rest position
- (3) - Pedal position -1:
moves the sewing feet up
- (4) - Pedal position -2:
sewing the final bartack and
cutting off the thread

Initial position:

Pedal position 0: Machine stationary, needles up, sewing feet down.

To position the material to be sewn:

1. Press the foot pedal halfway back in pedal position -1:
The sewing feet are lifted.
2. Push the material to be sewn into the initial position.

Sewing:

- Press the foot pedal forwards in pedal position +1:
The machine sews. The sewing speed increases the further forward the pedal is pressed.

To interrupt sewing:

- Release the foot pedal in pedal position 0:
The machine stops, needles and sewing feet are down.

To continue sewing:

- Press the foot pedal forwards in pedal position +1:
The machine continues to sew.

To sew over thickened seams:

- Switch on the elevated sewing foot stroke with the knee lever
( Section 5.11 Sewing foot stroke).

To change the stitch length:

- Switch on the 2nd stitch length using the key for the quick function ( Section 5.13 Switching on the quick functions at the keypad).

To increase the thread tension:

- Switch on the additional tension using the key for the quick function ( Section 5.13 Switching on the quick functions at the keypad).

To sew intermediate bartacks:

- Reverse sewing with the stitch adjustment lever ( Section 5.12 Stitch length) or the quick function key ( Section 3.13 Keypad for quick functions).

To finish a seam:

1. Press the foot pedal back completely in pedal position -2:
The machine sews the end strip and the thread cutter cuts the thread. The machine stops, needles and sewing feet are up.
2. Remove the sewn material.

5.15 Maintenance

This section describes simple maintenance work that needs to be carried out on a regular basis. This maintenance work can be carried out by the operating personnel. Advanced maintenance work may only be carried out by qualified specialists. Advanced maintenance work is described in the  *Service manual*.

WARNING

Risk of injury by the needle point and moving parts

Switch off the sewing machine before carrying out maintenance work.

5.15.1 Cleaning the machine

ATTENTION

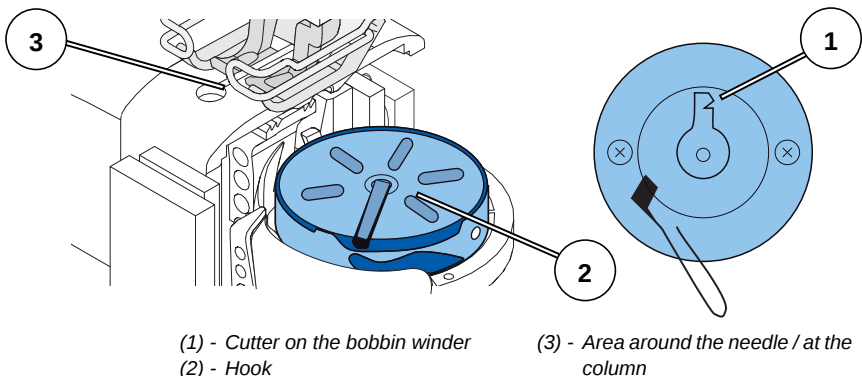
Malfunctions possible due to machine contamination.

Sewing dust and thread remains can impair the operation of the machine.

Clean the machine at regular intervals as described in the manual.

Sewing dust and thread remains must be removed every 8 operating hours using a compressed-air pistol or a brush. In the case of very fluffy material to be sewn, the machine must be cleaned more frequently.

Figure 26: Points that need to be cleaned particularly thoroughly



(1) - Cutter on the bobbin winder
(2) - Hook

(3) - Area around the needle / at the column

Areas particularly susceptible to soiling:

- Cutter on the bobbin winder for the hook thread (1)
- Hook (2)
- Area around the needle / at the column (3)

Cleaning procedure:

- Switch off the power supply at the main switch.
- Remove any sewing dust and thread remains using a compressed-air pistol or a brush.

WARNING**Risk of injury due to flying particles.**

Flying dirt particles can get in the eyes, causing injury.

Hold the compressed-air pistol in such a way that no particles fly near persons.

Take care that no particles fly into the oil pan.

ATTENTION**Possible damage to the paintwork from solvent-based cleaners.**

Solvent-based cleaners damage the paintwork of the machine.

Use only solvent-free substances for cleaning the machine.

5.15.2 Checking the oil level**WARNING****Skin injuries due to contact with oil**

Oil can cause a rash if it comes into contact with the skin.

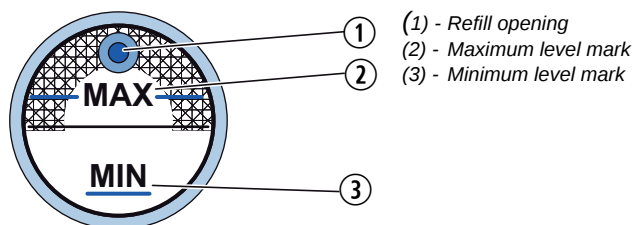
Avoid any skin contact with the oil.

If oil gets on your skin, wash the affected skin

ATTENTION**Machine damage possible due to incorrect oil level.**

Too little or too much oil can cause damage to the machine. Check the oil level on a daily basis and top up oil so that the oil level is always between the minimum and maximum markings.

Figure 27: Oil level indicator



- Check the oil level indicator every day:
The oil level must always be between the minimum level marking (3) and the maximum level marking (2).

Pour in oil through the refill opening (1) as required:

1. Switch off the sewing machine at the main switch.
2. Pour in oil, up to but not past the maximum level marking (2).
3. Switch on the sewing machine at the main switch.

**CLASSIC
equipment****Note for machines with CLASSIC equipment:**

If the oil level falls below the minimum level marking (3), on CLASSIC machines the oil level indicator lights up in red.

- Switch the sewing machine off and on again after filling with oil so that the red lamp goes out.

Oil to be used:

Only DA 10 or an oil of equivalent quality may be used for the machine, which has the following properties:

- Viscosity at 40° C: 10 mm²/s
- Flash point: 150 °C

ATTENTION**Machine damage possible due to incorrect oil.**

An incorrect oil type can cause damage to the machine. Only use oil that complies with the data in the operating manual.

ATTENTION

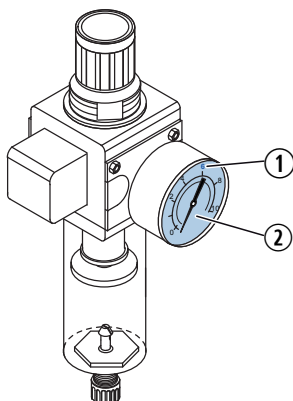
Risk of environmental damage from oil.

Oil is a pollutant and must not enter the sewage system or the soil.

Carefully collect waste oil and dispose of the waste oil and oil-contaminated machine parts in the legally prescribed manner.

5.15.3 Checking the pneumatic system

Figure 28: Pressure indication in the pressure controller



- (1) - Reference value: 6 bar
- (2) - Pressure indicator

- Check the pressure at the pressure indicator (1) every day:
 - Reference value: 6 bar.
 - The pressure must not deviate from the reference pressure by more than 1 bar.

ATTENTION

Machine damage possible due to incorrect pressure.

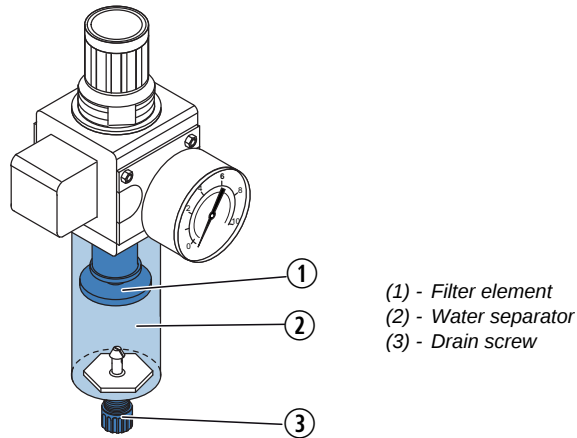
An incorrect pressure can cause damage to the machine.

Check the pressure on a daily basis.

Have the pressure adjusted by qualified specialists in accordance with the information in the  *Service manual* if the pressure deviates from the reference value.

Water condensation accumulates in the pressure controller of the maintenance unit.

Figure 29: Water level in the pressure controller



- Check the water level every day:
The condensation water must not rise up to the level of the filter element (1).

Drain water as required:

1. Switch off the sewing machine at the main switch.
2. Place the collection tray under the drain screw (3).
3. Unscrew the drain screw (3) completely.
4. Allow water to drain into the collection tray.
5. Re-tighten the drain screw (3).
6. Switch on the sewing machine at the main switch.

ATTENTION

Machine damage possible if there is too much water.

Too much water can cause damage to the machine.

Check the water level every day and drain condensation water if there is too much water in the water separator.

5.16 Customer service

Contacts for repair in the event of damage to the machine:

Dürkopp Adler AG

Potsdamer Str. 190

33719 Bielefeld, Germany

Tel. +49 (0) 180 5 383 756

Fax +49 (0) 521 925 2594

E-mail: service@duerkopp-adler.com

Internet: www.duerkopp-adler.com

6 Set-up

WARNING



Risk of injury.

The machine may only be set up by trained specialists.

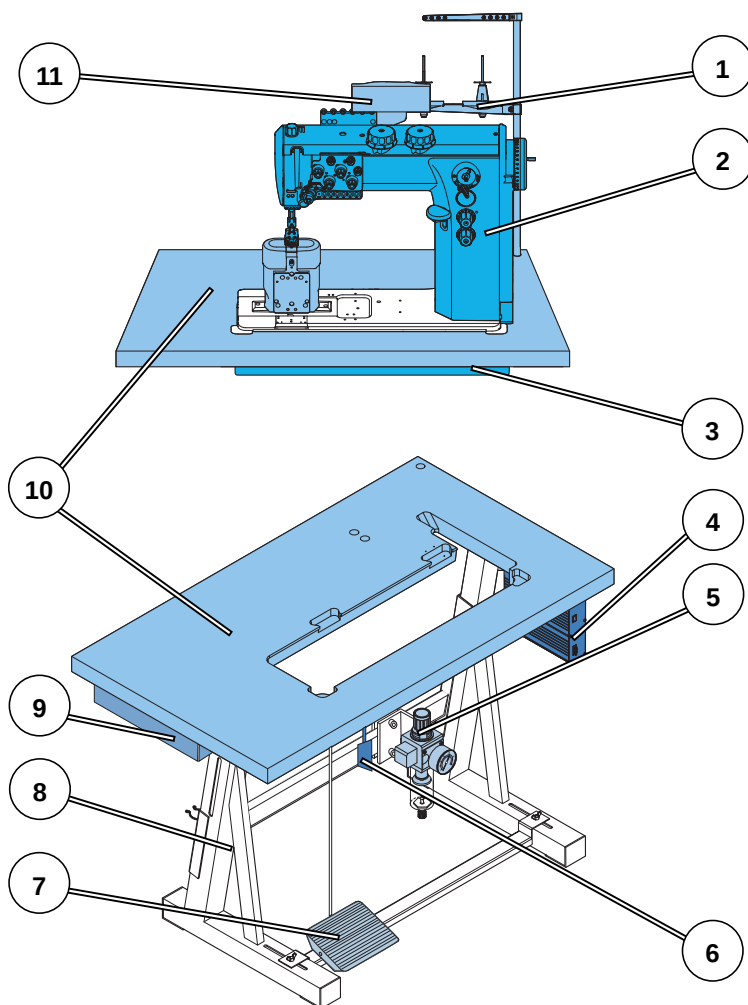
Wear safety gloves and safety shoes when unpacking and setting up.

6.1 Checking the scope of delivery

The delivery scope depends on the order.

- Prior to set-up, check that all parts required are present.

Figure 30: Delivery scope



(1) - Thread stand
(2) - Machine upper
section
(3) - Oil pan

(4) - Controller
(5) - Pneumatics
(6) - Knee lever
(7) - Pedal

(8) - Frame
(9) - Drawer
(10) - Table plate
(11) - Control panel

Standard equipment:

Machine upper section (2), Oil pan (3), thread stands with unwinding arm (1), controller (4), controller operating panel (11), knee lever (6)

Optional additional equipment:

Table plate (10), drawer (9), frame (8), pedal (7), pneumatic unit (5), sewing lamp (not illustrated)

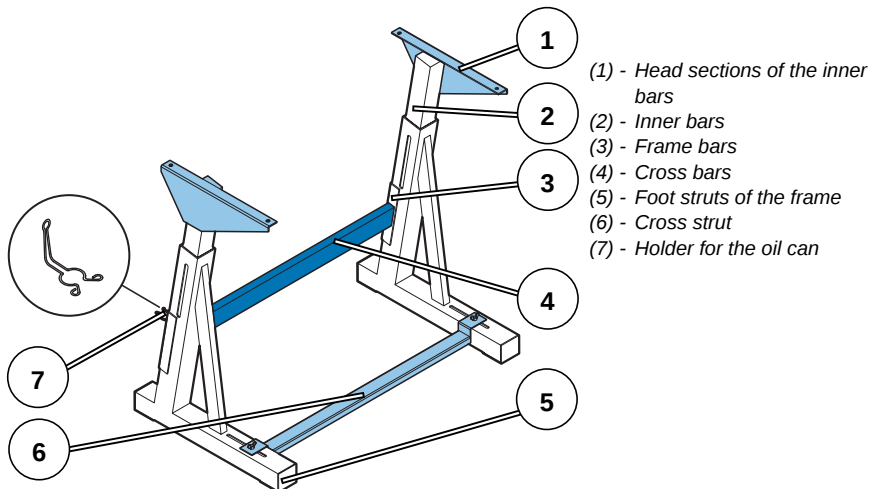
6.2 Removing the transport securing devices

All transport securing devices must be removed prior to set-up.

1. Remove the lashing straps and wooden blocks from the machine upper section, the table, and the frame.
2. Remove the supporting wedges between the machine arm and needle plate.

6.3 Fitting the frame components

Figure 31: Fitting the frame components

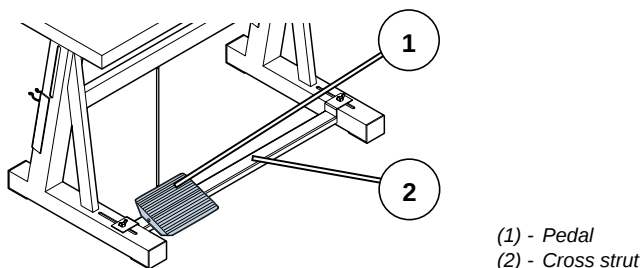


1. Screw the cross bars (4) onto the frame bars (3).
2. Screw the oil can holder (7) at the rear to the upper cross bar (4).

3. Screw the cross strut (6) onto the foot struts (5).
4. Insert the inner bars (2) in such a way that the longer end of the head section (1) is above the longer end of the foot struts (5).
5. Screw the inner bars (2) tight in such a way that both head sections (1) have the same height.

6.4 Fitting the pedal

Figure 32: Fitting the pedal



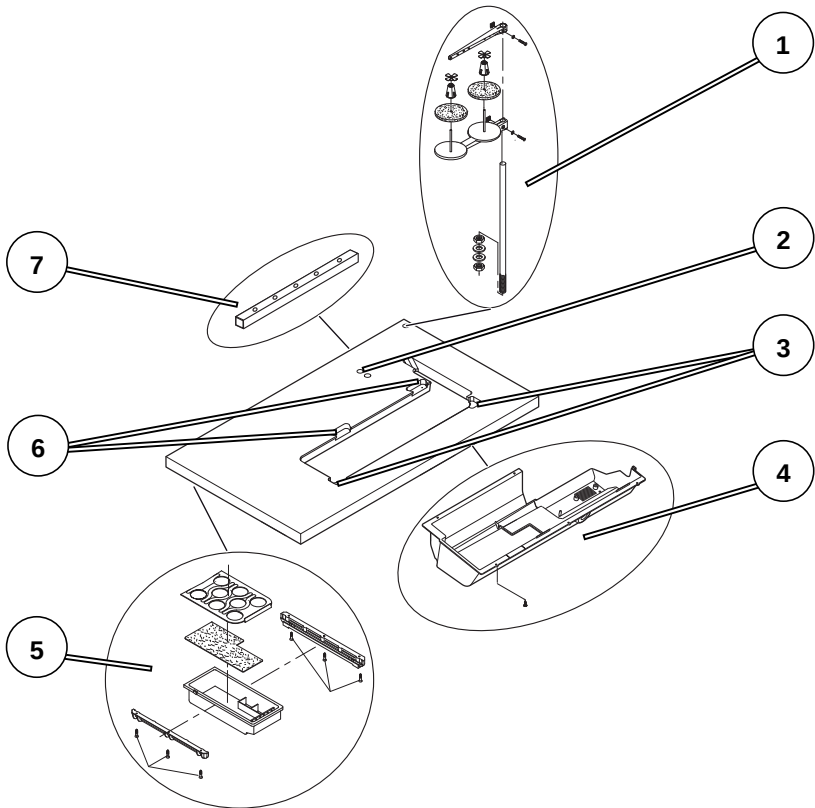
1. Fit the pedal (1) on the cross strut (2) and align it in such a way that the middle of the pedal is under the needle.
2. Screw the pedal (1) firmly onto the cross strut (2).

6.5 Completing the table plate

Making your own table plate

The table plate belongs to the optional delivery scope. If you want to make your own table plate, drawings with the dimensions are available in the  *Appendix*.

Figure 33: Completing the table plate



- (1) - Thread stand
 (2) - Hole in the table plate
 (3) - Corner projections
 (4) - Oil pan

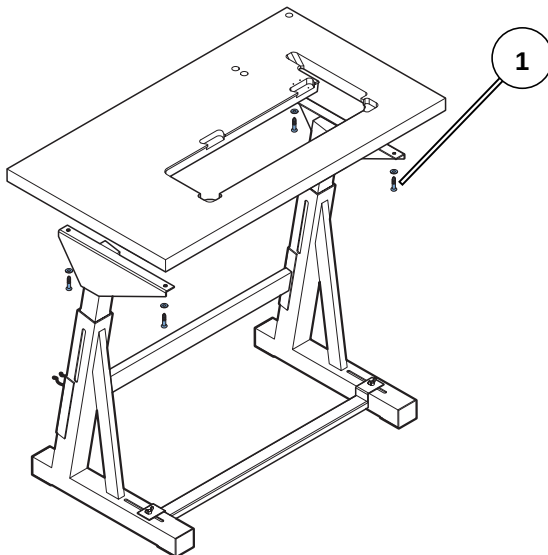
- (5) - Drawer
 (6) - Recesses for the rubber
 mounts of the hinge
 (7) - Cable duct

1. Screw the drawer (5) with the left-hand bracket to the underside of the table plate.
2. Screw the oil pan (4) in place under the recess for the machine.
3. Screw the cable duct (7) to the underside of the table plate.
4. Insert the thread stand (1) into the hole.
5. Fasten the thread stand (1) with nut and washer.

6. Screw the thread reel holder and the unwinding bracket onto the thread reel holder (1) in such a way that they are exactly opposite each other.
7. Insert the plug (2) in the hole.
8. Insert the rubber mounts of the hinge in the recesses (6).
9. Insert the rubber corners in the corner protrusions (3) of the recess for the machine.

6.6 Fastening the table plate to the frame

Figure 34: Fastening the table plate to the frame

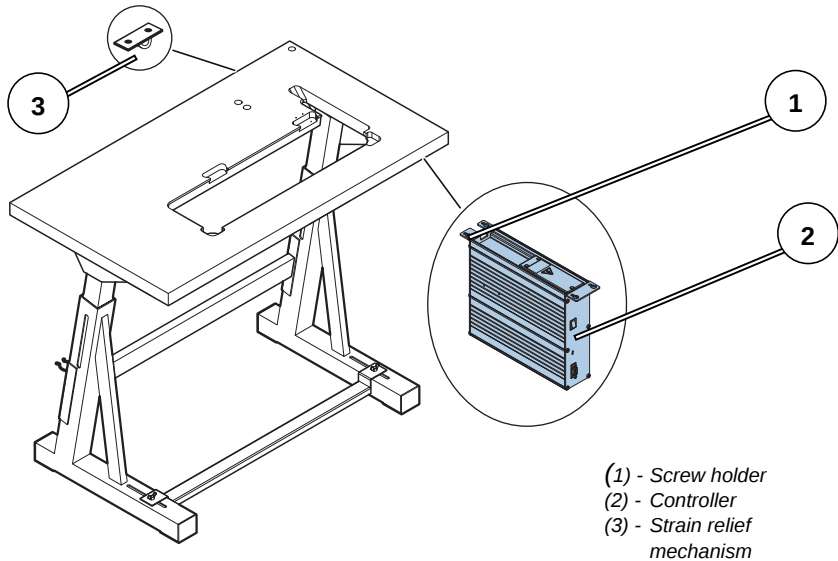


(1) - Screw holes and screws

1. Place the table plate on the head sections of the inner bars.
2. Screw the table plate firmly in place at the 4 screw holes (1).

6.7 Fitting the controller

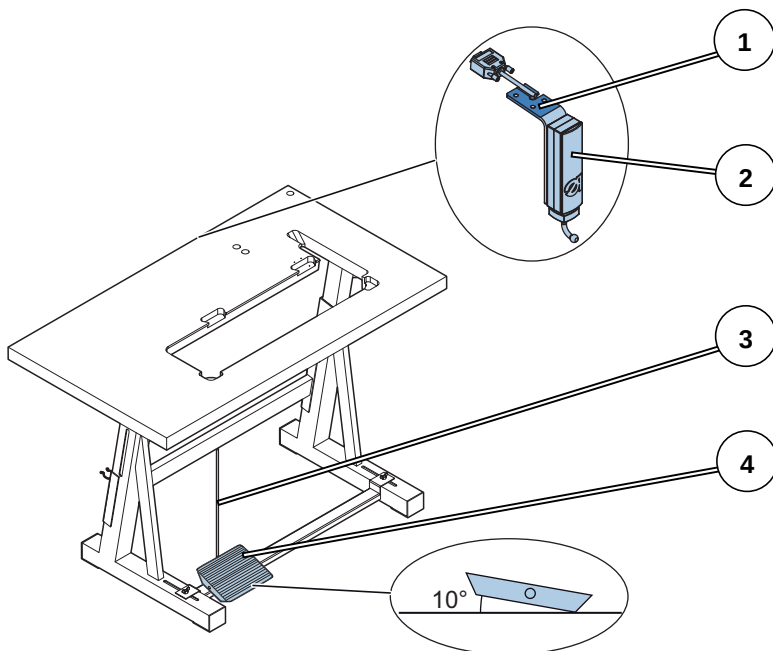
Figure 35: Fitting the controller



1. Screw the controller (2) onto the 4 screw holders (1) under the table plate.
2. Clamp the power cable of the control (2) into the strain relief mechanism (3).
3. Screw the strain relief (3) under the table plate.

6.8 Fitting the setpoint device

Figure 36: Fitting the setpoint device



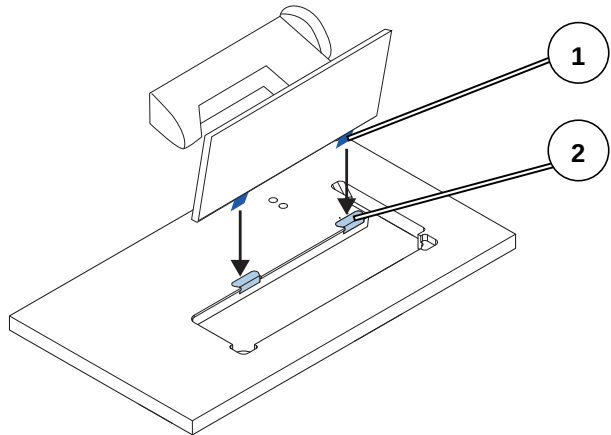
(1) - Angle piece
(2) - Setpoint device

(3) - Pedal rod
(4) - Pedal

1. Screw the angle (1) under the table plate.
2. Screw the setpoint device (2) onto the angle piece (1).
3. Pull the pedal rod (3) to the correct length:
10° inclination with pedal (4) released.
4. Attach the pedal rod (3).

6.9 Inserting the machine upper section

Figure 37: Inserting the machine upper section



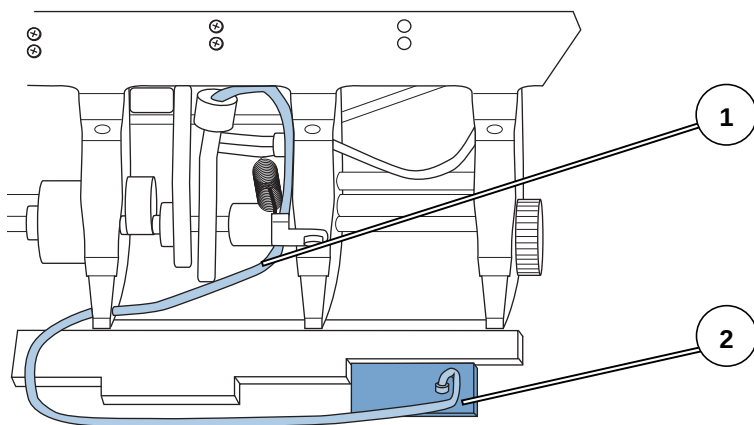
(1) - Upper hinge parts

(2) - Rubber inlays

1. Screw the upper hinge parts (1) onto the machine upper section.
2. Insert the upper hinge parts (1) into the rubber inlays (2).
3. Fold the machine upper section down and insert it in the recess.

6.10 Fitting the oil extraction line

Figure 38: Fitting the oil extraction line



(1) - Oil extraction line hose

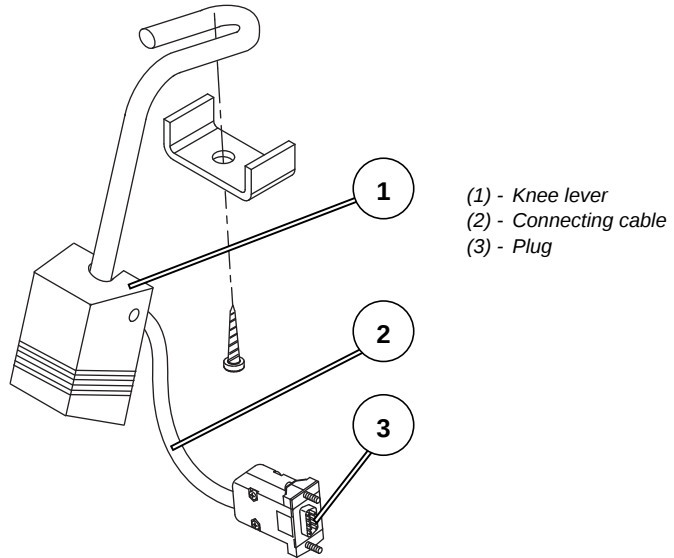
(2) - Felt mat

1. Fold the machine upper section back.
2. Screw the felt mat (2) into the oil pan with the plastic adapter on the right.
3. Insert the tube of the oil extraction line (1) into the plastic adapter.

6.11 Fitting the knee lever

6.11.1 Fitting the electric knee lever

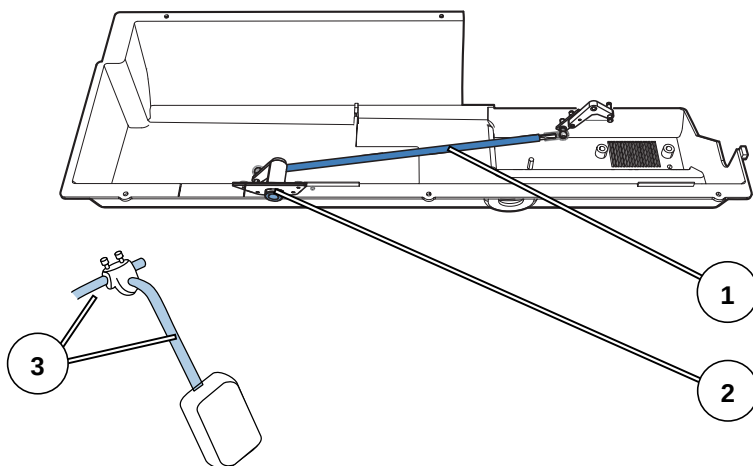
Figure 39: Fitting the electric knee lever



1. Screw the knee lever (1) under the oil pan firmly in place under the table plate.
2. Guide the connecting cable (2) to the back between the oil pan and the control.
3. Insert the plug (3) of the connecting cable in the socket of the control.

6.11.2 Fitting the mechanical knee lever

Figure 40: Fitting the mechanical knee lever



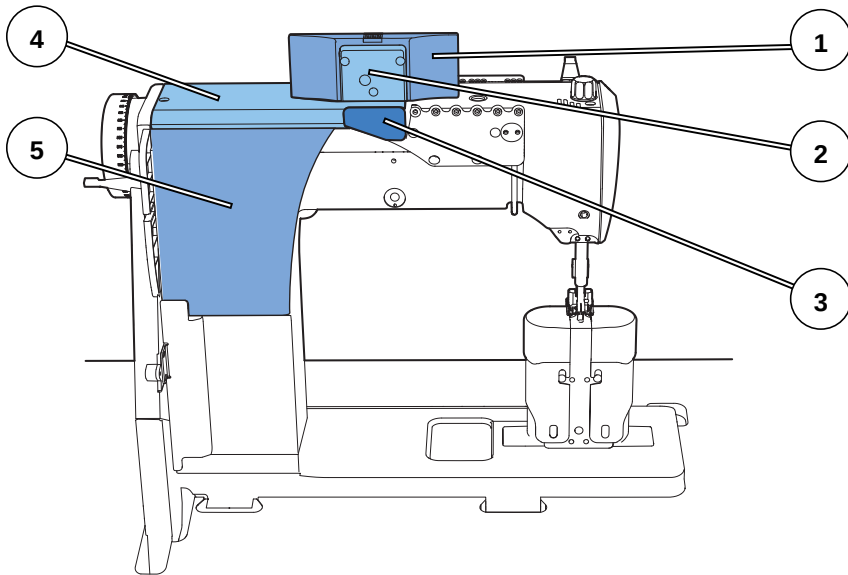
(1) - Transmission rod
(2) - Hole in the oil pan

(3) - Knee lever rod

1. Fold the machine upper section back.
2. Fit the transmission rod (1) in the oil pan.
3. Screw the knee lever (3) rods together.
4. Guide the rod (3) through the hole in the oil pan (2) and connect it to the transmission rod (1).

6.12 Fitting the control panel

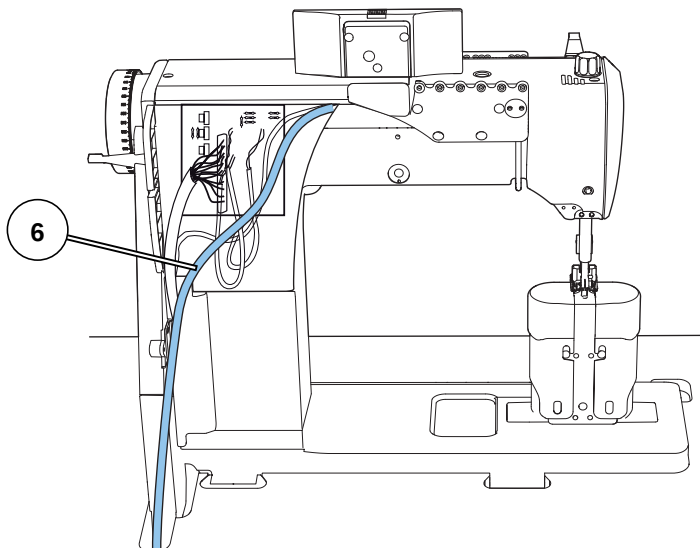
Figure 41: Fitting the control panel – Part 1



- | | |
|-----------------------------|---------------------------|
| (1) - Control panel | (4) - Valve cover |
| (2) - Control panel bracket | (5) - Upper machine cover |
| (3) - Cable duct | |

1. Unscrew the valve cover (4) and upper machine cover (5).
2. Screw the control panel (1) firmly onto the control panel bracket (2).
3. Install the connecting cable through the cable duct (3).

Figure 42: Fitting the control panel – Part 2



(6) - Connecting cable

4. Install the connecting cable (6) in the machine arm.
5. Guide the cable through the hole in the table plate.
6. Insert the plug of the connecting cable in the socket of the control.

Covers

If you have an additional sewing lamp to install as additional equipment:

- Leave the cover open until the sewing lamp has been installed and the sewing lamp cable has been laid.
7. Screw the valve cover (4) and upper machine cover (5) back into place.

6.13 Electrical connection

DANGER



Danger to life due to electric shock.

The machine may only be connected by trained electrical specialists.

Disconnect the power plug before carrying out work on the electrical equipment. Make sure the power plug cannot be unintentionally reinserted.

The voltage on the type plate of the sewing drive must correspond to the mains voltage.

6.13.1 Fitting the sewing lamp

The sewing lamp is an additional component that is not part of the standard delivery package.

DANGER



Danger to life due to electric shock.

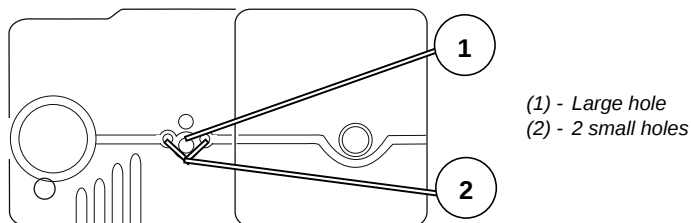
When you disconnect the sewing machine from the power supply at the main switch, the supply voltage for the sewing lamp remains active.

Disconnect the power plug before connecting the sewing lamp. Make sure the power plug cannot be unintentionally reinserted.

- Unscrew the valve cover and upper machine cover
( Section 6.12 *Fitting the control panel*).

The upper machine cover has pre-drilled holes for attaching the sewing lamp.

Figure 43: Fitting the sewing lamp



1. Either drill through the hole for 1 large hole (1) or through the holes for 2 small holes (2).
2. Screw the sewing lamp holder through the hole on the arm cover.
3. Install the connecting cable in the machine arm and guide the cable through the hole in the table plate ( Section 6.12 Fitting the control panel).
4. Stick the sticker with safety instructions onto the front of the control.

6.13.2 Fitting and connecting the sewing lamp transformer

DANGER



Danger to life due to electric shock.

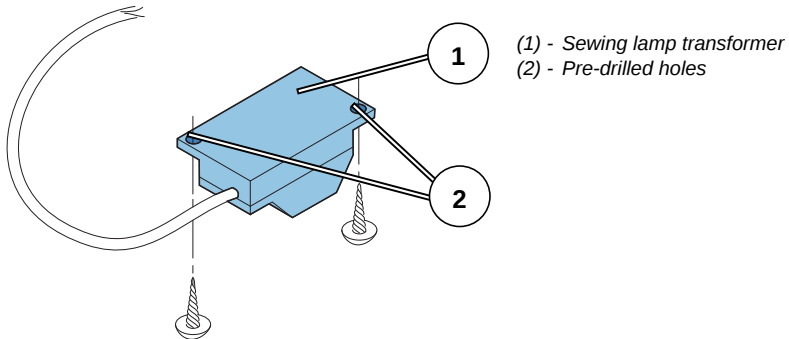
The sewing lamp transformer is connected directly to the power supply.

If you disconnect the sewing machine from the power supply at the main switch, the sewing lamp transformer is still live.

Disconnect the power plug before fitting and connecting the sewing lamp transformer.

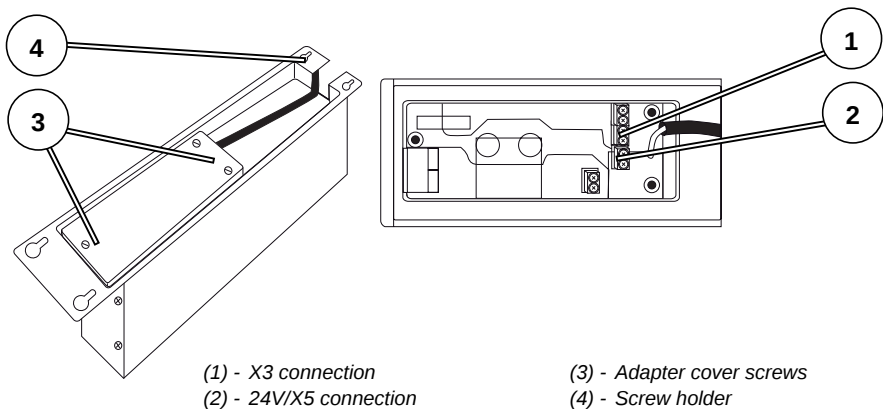
Make sure the power plug cannot be unintentionally reinserted.

Figure 44: Fitting the sewing lamp transformer



1. Screw the sewing lamp transformer (1) in place at the pre-drilled holes (2) under the table plate.
2. Fasten the connecting cable under the table plate using cable ties.
3. Establish the plug connection to the supply line for the sewing lamp.

Figure 45: Connecting the sewing lamp transformer to the control



1. Loosen the screw holder (4) for the control far enough to allow the control to be removed..

2. Remove the control.
3. Loosen the adaptor cover screws (3).
4. Connect the supply line:
For additionally mounted sewing lights to the X3 connection (1), for integrated LED sewing lights to the 24V/X5 connection (2).

6.13.3 Connecting the direct drive

To do this, read the Operating manual  *DAC basic/classic*.

Connecting the direct drive consists of the following work:

- Insert the plugs of all connecting cables in the sockets on the back of the controller.
- Connect the cable for equipotential bonding.
- Connect the controller to the power supply using the power cable.

6.14 Pneumatic connection

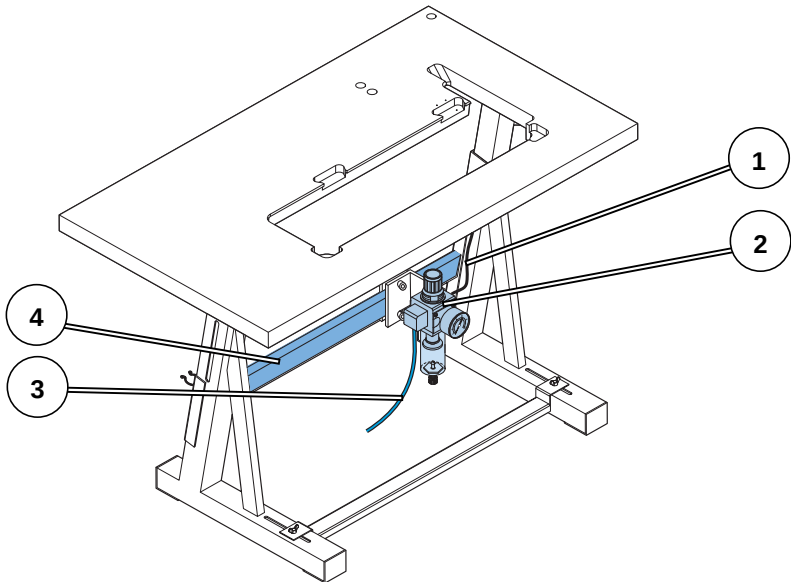
6.14.1 Fitting the maintenance unit

The pneumatic unit is an additional component that is not part of the standard delivery package.

ATTENTION

Machine damage possible due to incorrect pressure.

An incorrect pressure can cause damage to the machine.
The system pressure for the pneumatic unit is 8 – 10 bar.
Make sure that the system pressure is set correctly before fitting the pneumatic unit.

Figure 46: Connecting the pneumatic unit

(1) - Machine hose
(2) - Maintenance unit

(3) - System connection hose
(4) - Cross bar

1. Attach the maintenance unit (2) to the upper cross bar (4) of the frame using the bracket, screws and clip.
2. Connect the machine tube (1) coming out of the upper section to the maintenance unit (2) at the top right.
3. Connect the system connection tube (3) to the pneumatic system.

6.14.2 Setting the operating pressure

ATTENTION

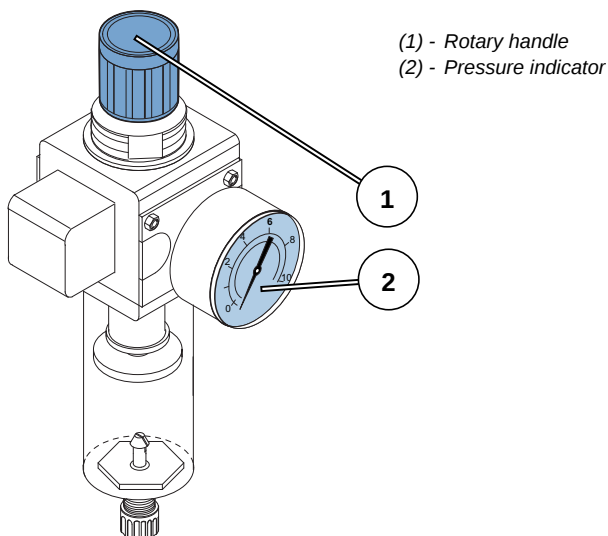
Machine damage possible due to incorrect pressure.

An incorrect pressure can cause damage to the machine.

The operating pressure for the pneumatic unit is 6 bar.

Make sure that the operating pressure is set correctly before putting the machine into operation.

Figure 47: Setting the operating pressure



1. Pull the turning handle (1) up.
2. Set the operating pressure in such a way that the pressure indicator (2) indicates 6 bar:
 To increase the pressure: Turn the turning handle (1) clockwise.
 To reduce the pressure: Turn the turning handle (1) counterclockwise.
3. Push the turning handle (1) down.

6.15 Lubrication

WARNING



Skin injuries due to contact with oil

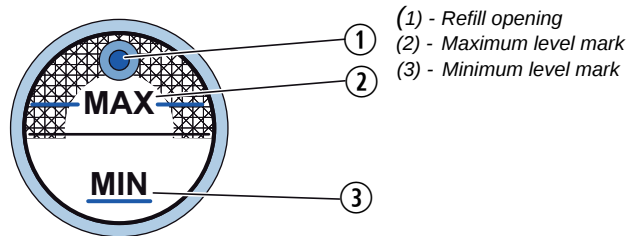
Oil can cause a rash if it comes into contact with the skin.

Avoid any skin contact with the oil.

If oil gets on your skin, wash the affected skin areas thoroughly.

All wicks and felt bits of the upper section are soaked in oil on delivery. This oil is conveyed to the reservoir during use, which is why you should avoid filling too much oil during initial filling.

Figure 48: Oil level indicator



ATTENTION

Machine damage possible due to incorrect oil level.

Too little or too much oil can cause damage to the machine.

During initial filling, only pour in oil up to 2 mm below the maximum level mark.

ATTENTION

Machine damage possible due to incorrect oil.

An incorrect oil type can cause damage to the machine. Only use oil that complies with the data in the operating manual.

ATTENTION**Risk of environmental damage from oil.**

Oil is a pollutant and must not enter the sewage system or the soil.

Collect waste oil carefully and dispose of it and oily machine parts in accordance with the applicable statutory regulations

Oil to be used:

Only DA 10 or an oil of equivalent quality may be used for the machine, which has the following properties:

- Viscosity at 40° C: 10 mm²/s
 - Flash point: 150 °C
-
- Pour oil through the refill opening (1) up to no more than 2 mm below the maximum level marking (2).

6.16 Sewing test

Carry out a sewing test before starting up the machine. Adjust the machine to the requirements of the material to be sewn.

To do this, read the corresponding sections in the  *Operating manual*.

WARNING



Risk of injury by the needle point and moving parts

Switch off the sewing machine before replacing the needle, insert the thread, insert the hook thread reel, adjust the hook thread tension and the thread regulator.

1. Insert the needle.
2. Thread in the needle thread.
3. Thread in the hook thread.
4. Wind on the hook thread.
5. Insert the hook thread reel.
6. Adjust the thread tension to the material to be sewn.
7. Adjust the thread regulator to the material to be sewn.
8. Adjust the sewing foot pressure to the material to be sewn.
9. Adjust the sewing foot stroke to the material to be sewn.
10. Adjust the stitch length.
11. Transfer the desired quick function from the keypad to the additional switch.
12. Start the sewing test at low speed.
13. Increase the sewing speed continuously until the working speed is reached.

7 Decommissioning

A number of activities must be performed if the machine is to be shut down for a longer period of time or completely decommissioned.

WARNING



Risk of injury due to a lack of care.

A lack of care or a lack of sufficient technical knowledge when decommissioning the machine can result in serious injuries.

Only clean the machine when it is switched off.

Avoid contact with oil residues.

Allow only trained personnel to disconnect the machine.

Decommission the machine as follows:

1. Switch off the main switch.
2. Unplug the power plug.
3. Disconnect the pneumatic connection.
4. Remove residual oil from the oil pan under the sewing material support using a cloth.
5. Cover the operating panel to protect it from soiling.
6. Cover the machine to protect it from dirt and damage.

8 Disposal



The machine must not be disposed of in the normal household waste.

The machine must be disposed of in an appropriate and correct manner according to the national regulations.

ATTENTION



Risk of environmental damage due to incorrect disposal

Incorrect disposal of old oil can result in severe environmental damage.

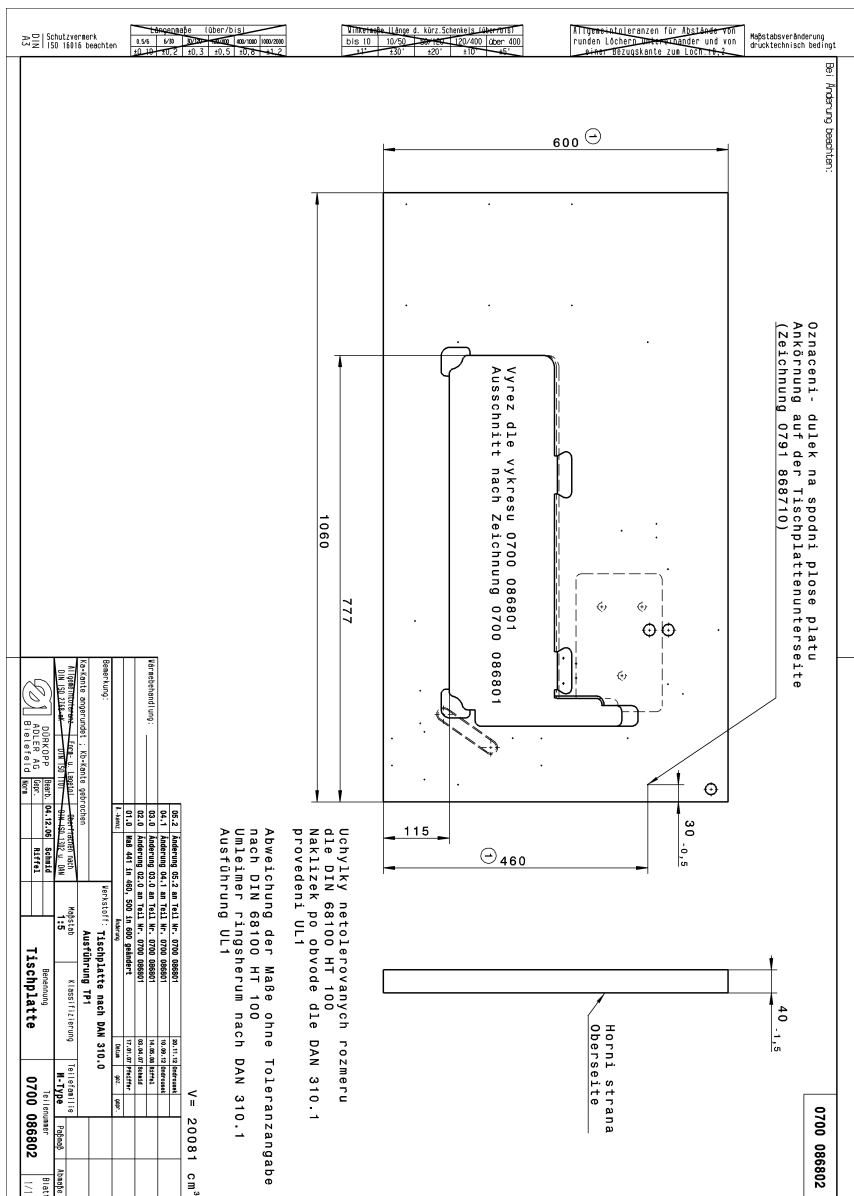
Always observe the legally prescribed regulations for disposal.

When disposing of the machine, be aware that it consists of a range of different materials (steel, plastic, electronic components, etc.).

Observe the applicable national regulations for disposal.

9 Appendix

Dimensions for manufacturing a tabletop, part 1



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